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ABSTRACT

It is generally acknowledged that employment is essential to the successful rehabilitation of drug abusers, and several models have been effective in helping drug abuse clients find jobs. To compare two methods of providing employment services to drug abuse treatment clients, the Employment Specialist Study sampled 40 clients at each of 39 clinics in Chicago, Detroit, and New Jersey. Clinics which provided a full-time employment specialist were compared to those providing services through a consultant specialist shared by three clinics, and control clinics with no employment services. Baseline, process and outcome data were collected using 12 different questionnaires and standardized report forms. Most of the study clients were male (79%), black (70%) and between 25 and 40 years old (75%). Data analyses showed clients from clinics with full-time employment counselors were more likely to be retained in the treatment program at least four months, and significantly more likely to be drug free or have diminished drug use at discharge. However, increase in employment was only slightly greater for clinics with full-time specialists than for clinics with no employment specialists. Clinics with consultant specialists were more likely to retain clients than the control groups, but significantly less likely to retain clients than clinics with full-time specialists. Because of the importance of employment to clients, further research is needed to determine how employment specialists might best be used with existing counseling staff. (JAC)

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National Institute on Drug Abuse

TREATMENT RESEARCH REPORT

AN EVALUATION OF THE IMPACT OF EMPLOYMENT SPECIALISTS IN DRUG ABUSE TREATMENT

CG 016610

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The Treatment Research Reports and Monograph Series are issued by the Treatment Research and Assessment Branch, Division of Prevention and Treatment Development, National Institute on Drug Abuse (NIDA). Primarily they inform the drug abuse treatment community about the service delivery and policy-oriented findings from Branch-sponsored studies, innovative service delivery models for different client populations, new treatment management and financing techniques, and treatment outcome studies.

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Preface

Concern about increasing the employability of drug abuse clients has existed for some time, and for just as long, frustration has been felt over how to accomplish this task. This report shows how the goals of employment and increased program effectiveness can be promoted by adding employment specialists to existing drug abuse treatment staffs. In the study described, employment specialists were added to existing treatment programs, and the impact of employment specialists on the treatment process, client retention, the employment of clients, client drug abuse, and client criminal activity was measured. The study distinguished between the impact of employment specialists used as direct service providers and those used as consultants to program staff.

The results of this study can help program administrators and State agency planners understand the goals they can expect to achieve by using employment specialists. While further research is clearly warranted, the findings suggest an important role for employment specialists in the provision of effective drug abuse treatment.

Summary

A study using two different models was conducted during 1978-80 in Chicago, Detroit, and New Jersey to examine the impact of employment specialists on clinic functioning and client outcomes. The first model provided for a full-time employment specialist located at an individual clinic; in the second model, a specialist served as a consultant to a group of three clinics. In the first model, the specialist served clients directly; in the second, the specialist acted as an advisor and resource person on employment issues for other program counselors and was expected to have few individual clients. Both approaches were contrasted with clinics having no employment specialists. A total of 39 clinics representing outpatient drug-free, residential drug-free, and methadone maintenance programs participated. At least five clinics representing one modality--matched on surrounding labor market conditions, program size and racial characteristics of clients--were selected in each of the three cities. Each clinic was then assigned to one of the three experimental conditions. The three clinic groups did not differ significantly in terms of program or client variables measured.

The findings suggest that the addition of full-time employment specialists to the staff of drug abuse treatment programs results in significantly greater client retention and a significantly greater decrease in drug use. However, when compared to similar programs with no employment specialists, no significant difference regarding the number of unemployed clients who secured jobs was found.

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An Evaluation of the Impact of Employment Specialists in Drug Abuse Treatment

Background

It is generally acknowledged that employment is essential to the successful rehabilitation of drug abusers. Indeed, the success of treatment is measured not only by the reduction of drug use and crime but also by the ability to secure employment. Even so, employment assistance remains one of the most neglected areas in treatment programs. Studies have shown that clients want assistance in improving their education and skills, in finding jobs, and in improving their financial situations (Mandell et al. 1973; Hargreaves 1980; Senay et al. 1981). Information on clients in Federally funded treatment programs strongly suggests that effective help is often not provided. Upon admission to treatment in 1979, 67 percent of all clients were unemployed, and only 15 percent were actively looking for employment. At discharge, the situation had not improved much for the majority of clients. Only 8.5 percent of those unemployed at admission were employed at discharge; only 2.6 percent had completed a skills development program, and only 16.5 percent were enrolled in such a program at the time of discharge (NIDA 1980).

In another study, over half the clients in treatment indicated that no employment-related services were available (Senay 1981). In 1977 a nationwide survey of 162 programs was conducted to determine the nature and extent of vocational and employment-related services offered to clients; only 9 percent were found to have funds specifically earmarked for such services. Few clinics reported full-time staff or specially trained staff responsible for vocational rehabilitation. Only 7 percent of the clinics had teachers, 19 percent had vocational rehabilitation specialists, 11 percent had job counselors, 5 percent had job developers, and 24 percent assigned general counselors full time to employment-related services (Hubbard 1981). Other studies have documented how few clients participate in vocational training programs or receive employment related services (Sells 1974; Burt and Pines 1976).

Studies have shown that when clients secure employment, they are more likely to complete treatment and to remain drug free and arrest free (Sells 1974; Friedman 1978; MDRC 1980; Simpson 1981a). In addition, when vocational rehabilitation and employment-related services are provided, clients acquire more positive attitudes toward themselves, society, and their own lives (Bass and Woodward 1978).

Several models have been shown to be effective in helping clients secure employment. One was a centralized unit responsible for developing employment opportunities and placing clients from participating treatment programs in jobs. The units were tested in four cities and were considered popular and effective by clients, clinics, and employers (NIDA 1977). Another technique found effective was a job seekers' workshop using structured group counseling sessions including videotape feedback of mock job interviews. Clients received counseling and worked with each other to help improve their appearance and handling of job interviews. Participants in the workshops were rated as better job applicants and were more likely to secure employment than a control group of nonparticipant treatment program clients (Hall 1981).

A third, more elaborate program (supported work) has been extensively tested and found effective in helping drug abusers make the transition from treatment programs to regular employment (Friedman 1978; MDRC 1980). The model provided for 12 to 18 months of employment with graduated stress, close supervision, peer support, and salaries at or just above the minimum wage. Workers were promoted, suspended, or terminated on the basis of performance. The program then helped participants secure regular employment. These participants were compared in two studies to a control group of ex-addicts who were not offered supported work. Both studies collected information on drug use, crime, employment, and earnings. Findings of both studies indicated that those who participated in supported work were substantially less involved in criminal activity and experienced greater improvement in their employment and earning power than the control group clients.

In all three of the models described above, the services were provided by organizations outside the treatment programs. The first two had relatively simple structures and were moderately expensive; the third was much more elaborate and consequently more costly. With treatment program

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funds becoming more limited and community vocational rehabilitation, employment, and training resources becoming more scarce, it seems important to understand what could be accomplished if the treatment programs themselves supplemented their existing staff with the services of an employment specialist.

Methodology

The Employment Specialist Study was designed to test the impact of two different methods of providing employment services to drug abuse treatment clients in three geographic areas. One approach provided employment services through a full-time employment specialist located at an individual clinic; the other approach provided services through a consultant specialist shared by a group of three clinics. Each of these approaches was contrasted with clinics that had no employment specialists. This basic design was replicated for three different drug treatment modalities: outpatient drug free (OPDF), residential drug free (RDF), and Methadone Maintenance (Meth).

The design is illustrated in table 1. Thirty-nine clinics were selected from the three sites and from the three types of drug treatment modalities, producing six site-modality types: Chicago-Meth, Detroit-Meth, Detroit-OPDF, New Jersey-Meth, New Jersey-OPDF, and New Jersey-RDF. To be eligible for selection, the clinic had to volunteer for the study and had to be without the services of an employment specialist. Within each site, a minimum of five clinics representing one modality and matched on surrounding labor market conditions, program size, and racial characteristics of clientele were selected. Of these five, at least one clinic was assigned a full-time employment specialist, three shared a consultant employment specialist, and one was asked to serve as a control clinic receiving no intervention. Overall, 7 clinics had full-time specialists, 21 clinics had consultant specialists, and 11 had no specialists.

Sampling

To determine the impact of the employment specialist services on drug abuse treatment clients, the first 40 clients admitted to each clinic after the employment specialists began work (or after baseline data collection in the case of the control clinics) were selected as study clients. The client quota selection procedure was designed to provide a relatively similar number of clients from each of the clinics in the study. Thus, the client sample was not proportional to the clinic size. Furthermore, the quota sampling procedure resulted in some clinics (those admitting smaller numbers of clients each month) taking longer to meet their quotas than clinics with larger numbers of monthly intakes. Among the clinics in the study, 1 clinic had met its quota of clients in 1 month, while 10 clinics did not fill the quota of 40 clients during the entire life of the study. The number of study clients in each site and modality is illustrated in table 2.

Those clients who were in the clinic before the study began and those clients who entered the clinic after the 40 study clients had been enrolled were considered nonstudy clients. However, the specialists provided services to all clients regardless of their study or nonstudy status. Indeed, after the study was approximately 50-percent complete it was evident that the specialists were serving many more nonstudy than study clients. The researchers felt that, since so few study clients were being served, the obtaining of solid evidence on the impact of the employment specialists might be jeopardized. Therefore, the specialists were encouraged, whenever feasible, to serve their study client population. As planned, the evaluation of the impact of the employment specialists on client outcomes used only data on study clients. However, documentation was provided on the services given by the specialists to nonstudy clients.

Table 1.--Employment specialist study design: Number of clinics by site, intervention, and treatment modality

Treatment modality	Intervention type								
	New Jersey			Detroit			Chicago		
	C	T_1	T_2	C	T_1	T_2	C	T_1	T_2
Methadone	2	1	3	2	1	3	3	2	6
Residential drug free	2	1	3	X	X	X	X	X	X
Outpatient drug free	1	1	3	1	1	3	X	X	X
Total	5	3	9	3	2	6	3	2	6

(N=39) C = Control clinics; T_1 = Full-time specialists; T_2 = Consultant specialists; X = No clinics in this site-modality

Instrumentation

Baseline, process, and outcome data were collected during the study. Baseline and process data were gathered on clients, staff, and employment specialists. The source of outcome data on clients was the clients themselves and the employment specialists, and infrequently, the clients' primary counselor when the client was unavailable. The frequency of data collection varied according to the instrument used. Table 3 displays the clinic instruments by collection source, frequency of collection, and respondents.

A total of 12 different instruments, in the form of questionnaires and standardized report forms, were used to collect data. In all sites (Chicago, Detroit, New Jersey) information was collected on all study clients from the Client Oriented Data Acquisition Process (CODAP) Admission and Discharge Reports by the existing clinic staff.

Clinic process data were collected through five instruments listed on table 3. The data sources included the clinic staff (Staff Process Questionnaire), the employment specialists (Caseload and Employment Development Contact Reports), and the clinic directors and site coordinators (Monthly Reports). A sample of 10 clinic staff members per program was selected to answer the questionnaire. If the clinic had 10 or fewer persons, all staff were included; if there were more than 10 persons, the following were included: the director, the assistant director, 1 mental health staff person (psychologist or social worker), 1 medical staff person (physician or nurse), 1 intake worker, and 5 counselors. The sample of counselors was selected randomly from a list of program counselors.

Data were gathered monthly on all clinic activities except the staff questionnaire. Staff data were collected three times during the study using the originally sampled 10 staff members from each of the 39 clinics (N=390). This questionnaire covered types of services provided by the clinic as a whole and the individuals themselves. Referral practices to employers and to social service agencies for job development and training were also documented. The data collection allowed observation of change in staff functioning from before study onset to the end of the study 16 months later.

The Employment Specialists' Caseload Report documented numbers of clients served, along with type of services provided. Employment changes, referrals, and job training participation status were also recorded. The Employment Development Contact Report listed the names of employers (along with type of business) contacted within the month (whether through in-person visit or telephone call), the purpose of the contact, and its outcome.

Statistical Analysis

The main data analysis to assess the impact of the employment specialists called for comparing control clinics to clinics that had full-time or consultant employment specialists. As a prelude to the central analyses contrasting these types of employment specialist interventions, statistical tests were performed to determine if there were site or drug treatment modality differences. When such differences were not found, data were combined across site and modality. Then, statistical tests for significant differences between these employment specialist intervention types were performed on all relevant variables. These tests evaluated clinic and client characteristics at the onset of the study to establish initial comparability; clinic and employment activities to assess impact on clinic process; and client employment, drug use, and criminal behavior at discharge to assess impact on client outcomes. According to the type of variable, chi-square tests or analyses of variance were performed.

Table 2.--Number of clients by site, intervention, and treatment modality

	Intervention type								
	New Jersey			Detroit			Chicago		
Treatment modality	C	T_1	T_2	C	T_1	T_2	C	T_1	T_2
Methadone	68	28	89	63	40	64	68	47	138
Residential drug free	30	30	73	X	X	X	X	X	X
Outpatient drug free	74	37	118	33	20	132	X	X	X
Total	172	95	280	96	60	196	68	47	138

(N=1152) C = Control clinics; T_1 = Full-time specialists; T_2 = Consultant specialists; X = No clinics in this site-modality

Table 3.--Type of data collection instruments, collection source, frequency of administration, and respondents

Instrument	Collection source	Frequency	Respondent
CODAP admission report	(Already being collected by clinic staff)	At admission	All clients
CODAP discharge report	(Already being collected by client staff	At discharge	All clients (or primary counselor)
Staff process questionnaire	Self-administered, individually or in small groups, with questions clarified, as necessary, by evaluation	Three times: o before employment specialists began work o 10 months after employment specialists began o 6 months later (16 months after employment specialists began)	
Employment specialists' caseload report*	Employment specialists	Monthly	
Employment specialists' employment development contact report	Employment specialists	Monthly	
Clinic directors' report	Clinic directors	Monthly	
Site coordinators' report	Site coordinator	Monthly	

*Also provided client outcome data.

The Program

The Clinics.--At the beginning of the study, information was collected to determine the range and types of services provided before the addition of specialists and to determine whether clinics were significantly different; they were found not to be. Nearly all clinics reported that they provided medical services in addition to drug maintenance in the methadone clinics (70 percent of full-time specialist clinics, 90 percent of other clinics). Most reported that they provided some form of employment assistance (less than 60 percent in consultant specialist clinics and 70 percent in others). Just over half provided legal aid (about 55 percent of all clinics) and social services (55 percent); basic education services were provided by some (30 percent of full-time specialist clinics and 40 percent of others); and financial assistance was provided by some (30 percent of full-time and consultant specialist clinics and none of the control clinics).

These services were provided by a range of staff members including administrators, counselors, social workers, nurses, physicians, psychologists, teachers, and skills trainers. At study onset, the number of full-time equivalent treatment staff in full-time specialist clinics was over 15, compared with more than 11 in control and 10 in consultant clinics.

Mean number of treatment staff

	Control clinics	Clinics with full-time employment specialists	Clinics with consultant employment specialists
Baseline	11.7	15.9	10.0
Month 10	11.0	10.9	9.0
Month 16	11.9	10.6	10.4

The Clients.--The majority of the study clients were male (79 percent), black (70 percent), and between 25 and 40 years of age (75 percent). Only 18 percent had any postsecondary education, and half the clients had prior criminal records. At admission to treatment, 31 percent were employed.

At admission, the predominant drug problem was heroin: nearly 85 percent mentioned it as their primary drug problem. Heroin-using clients reported taking that drug an average of 40 times a month for a period of about 8 years. In addition, over 50 percent of the clients reported using drugs other than heroin.

There were no statistically significant differences between the clients in the different intervention types at the three sites. Somewhat fewer clients in full-time specialist clinics were employed (22 percent vs. 33 percent for other clinic types) at admission, and clients in consultant clinics used heroin slightly less frequently and for a fewer number of years than did those in control and full-time specialist clinics. Again, however, differences were not significant.

The Specialists.--The specialists were selected at each site either by the Single State Agency or site coordinator (Michigan and New Jersey), or by the participating clinics after an initial screening by the site coordinator (Illinois). The full-time specialists were expected to have client caseloads, to work with staff and clients to determine client needs, and to identify appropriate skills training, on-the-job training, and employment opportunities for clients. They were expected to make direct referrals to such openings and to maintain follow-up contacts after placement. In addition, they were expected to develop linkages with community vocational and social service agencies, employers, and labor unions. By contrast, the consultant specialists were expected to help supervise or provide training and assistance to existing clinic staff in performing these tasks, rather than to provide the services directly to clients. (In practice, this distinction was not always clear.)

Of the 14 original employment specialists, 11 remained throughout the data collection period of the study; 3 employment specialists left during the project and were replaced without significant lapse in service to their clinics and clients.

A composite picture of the typical employment specialist must be drawn cautiously. The typical employment specialist was a college-educated male, about 34 years old, who had worked in the drug treatment field for 5 or 6 years. Fewer than half had previous vocational rehabilitation experiences. Small differences existed between full-time and part-time specialists. The full-time specialists were predominantly black, were somewhat better educated (all had at least a college degree; five had graduate degrees) and were, on the average, younger than the consultant specialists (32 years vs. 37 years). The majority of consultant specialists were white. Again, none of these differences were statistically significant.

The only significant site difference was found in the average years of drug treatment experience. Chicago and New Jersey specialists averaged 7 years of experience, while Detroit specialists averaged 3 years. Detroit was the only site that hired specialists with no previous work experience in the drug field (two in number).

Findings

The analyses examined how the addition of employment specialists affected clinic activities associated with vocational rehabilitation and how it affected client functioning. The impact on program functioning is discussed below under process analysis by contrasting baseline clinic activities with clinic activities at later time periods. The impact on client functioning is reviewed under outcome analysis.

Process Analysis

The effect that adding employment specialists had on the activities of clinic staff was examined with respect to three target groups: employers, community organizations, and clients. Two types of activities were examined: those performed directly by the specialists and those carried out by other clinic staff. In the figures below, information is presented separately on those activities performed by the entire staff, i.e., the specialists and the regular staff (Total staff), and on those activities performed only by the regular staff (Non-ES staff). Control clinics, clinics with consultant employment specialists, and clinics with full-time employment specialists were compared prior to onset of their services (baseline), 10 months after start of services, and 6 months later. Overall, the patterns were complex, illustrating a variety of changes.

The first set of activities examined were those performed with potential and current employers (table 4). At the onset of the study, staff in control clinics made an average of 2.5 contacts per week with employers; staff in clinics having either a full-time or consultant specialist made somewhat fewer.

Staff in full-time employment specialist clinics (both the specialists and the regular staff) markedly increased their number of weekly contacts with employers over baseline by month 10, but this was not sustained at month 16. After 16 months, staff in control clinics reported significantly more contacts with employers while those in full-time and consultant clinics reported a decline ($p < .05$).

Table 4.--Mean number of weekly staff contacts with employers by clinic type

	Control clinics	Clinics with full-time employment specialists		Clinics with consultant employment specialists	
		Total staff	Non-ES staff	Total staff	Non-ES staff
At baseline	2.5	--	1.5	--	2.2
Month 10	2.8	3.3	2.7	2.3	2.1
Month 16	3.7	2.2	1.9	1.6	1.6

Three different kinds of activities with employers were examined: specific job development contacts, general public relations contacts, and followup contacts. Staff were asked how often they made such contacts. Table 5 shows the percentage that performed these weekly. At baseline, about 10 percent of staff in all clinics made specific job development contacts weekly with employers, 15 percent made public relations contacts, and 12 percent made followup contacts. As time progressed, contacts of most types generally showed small increases, with the greatest increase registered by staff in control clinics.

Next, activities performed by staff with community organizations were examined. The average number of contacts per staff per week at baseline was nearly four for each of the clinic types. Over time, the number of contacts remained relatively stable, with minor decreases by control clinics but no change for either of the employment specialist clinic types.

Five types of work performed with community organizations were examined: job development, skills training, public relations, basic education, and client followup (table 6). Overall, job development activities increased slightly in control clinics over time, decreased in consultant clinics, and remained constant in full-time clinics, although nearly all these activities in full-time clinics were performed by the specialists. There were small increases across all clinic types for public relations activities. At month 10, staff of clinics with full-time specialists spent less time following up clients than the other clinics; but by month 16, clinics with both full-time and consultant staff did more followup work than control clinics. Skills-training contacts changed relatively little, although in full-time clinics the specialists were responsible for nearly all the activity. Education activities were least frequent in control clinics at baseline but increased dramatically.

The third type of staff activity examined involved the clients directly. The average number of clients worked with in employment-related matters in a typical week was 23 (table 7) at baseline and 18 by month 16. Staff in control and full-time employment specialist clinics tended to work with more clients directly than staff in consultant clinics.

Vocational planning and job maintenance counseling activities were the most common job-related activities performed with clients (table 8).

Table 5.--Mean percentage of clinic staff reporting various types of contact with employers per week by type of clinic and months after study initiation

	Job development					Public relations					Followup				
	Base-line	10 months		16 months		Base-line	10 months		16 months		Base-line	10 months		16 months	
		Total staff	Non-ES staff	Total staff	Non-ES staff		Total staff	Non-ES staff	Total staff	Non-ES staff		Total staff	Non-ES staff	Total staff	Non-ES staff
Control clinics	8	--	18	--	16	8	--	17	--	22	10	--	25	--	24
Full-time employment specialist clinics	5	4	4	11	13	15	13	13	21	14	12	18	18	19	14
Consultant employment specialist clinics	14	24	15	12	14	20	16	16	14	19	13	20	20	19	19

Table 6.--Mean percentage of staff reporting various types of contact with community organizations per week, by type of clinic and months after study initiation

	Job development					Public relations					Followup					Skills training				
	Base-line	10 months		16 months		Base-line	10 months		16 months		Base-line	10 months		16 months		Base-line	10 months		16 months	
		Total staff	Non-ES staff	Total staff	Non-ES staff		Total staff	Non-ES staff	Total staff	Non-ES staff		Total staff	Non-ES staff	Total staff	Non-ES staff		Total staff	Non-ES staff	Total staff	Non-ES staff
Control clinics	9	--	9	--	14	9	--	16	--	22	20	--	19	--	12	9	--	8	--	9
Full-time employment specialist clinics	8	2	2	10	0	15	13	13	25	20	16	6	6	21	15	6	2	2	11	2
Consultant employment specialist clinics	19	14	14	6	6	15	17	17	18	18	15	18	18	21	21	14	9	9	10	10

Table 7.--Mean number of clients with whom staff worked on employment-related matters per week, by clinic type

	Control clinics	Clinics with full-time employment specialists	Clinics with consultant employment specialists
Baseline	27.3	26.8	17.2
Month 10	21.6	18.6	16.2
Month 16	21.6	19.9	16.5

Vocational planning was provided by 66 percent of all staff at baseline and decreased to 45 percent by month 16. The greatest decrease was by staff in full-time clinics; again the activities were largely performed by the specialists rather than by other staff. At baseline, 75 percent of all staff provided job maintenance counseling compared with 64 percent at month 16, with the largest decrease in consultant and full-time clinics.

Sending clients on job interviews was a common activity, performed by 34 percent of staff at baseline, but decreasing to 18 percent at month 16. Consultant clinics reported the largest percentage of this type of activity at baseline, but the decrease made all clinic types approximately equal at the end of the study. In full-time clinics, virtually all that work was performed by the specialists.

Skills-training activities were not reported very often. As expected, with the addition of specialists, the regular staff became less involved in conducting job-related activities.

Another employment-focused activity involved job referrals (table 9). Job referrals were defined more generally than job interviews: a referral occurred when clients were told of possible jobs; interviews were for specifically available jobs. Staff in control clinics made more referrals at baseline, on average, than did staff in full-time or consultant employment specialist clinics. At month 10, referrals increased for the control and full-time clinic staff, producing statistically significant differences between those and control clinics and, at month 16, a decrease for control and full-time staff. By this time, staff in full-time clinics made the fewest job referrals on average, and most of those were made specifically by the specialist.

At baseline, the average number of clients who applied for jobs and those who were hired were similar for all three clinic types. At month 10, the number of clients who applied for jobs and were hired increased in full-time clinics. However, by month 16, the full-time clinics had decreased to the baseline level and were similar to the other clinic types.

At baseline, more clients from control clinics were referred to community organizations and participated in community programs than clients from other clinics (table 10). At month 10, participation for clients from full-time clinics increased but declined to baseline level at month 16.

Thus, overall the process analysis suggests that there were many discrete changes in staff activities, some increases and some decreases, but generally the shifts were not large and did not lead to significant differences among program types. Also, there was evidence of increased staff activities in both full-time specialist and control clinics by month 10 (e.g., community organization contacts, job referrals, and participation in programs by clients), but these activities typically decreased to baseline levels by month 16.

As expected, within clinics with full-time specialists, the job-related activities became nearly the exclusive domain of the specialist. The specialists performed these activities, and the other staff significantly decreased their involvement. At other clinics, a larger proportion of all staff members remained involved, and this, in some cases, resulted in the performance of more job-related activities overall.

Overall and unexpectedly, counselor activity in control clinics increased in a variety of vocational service areas. This spurt in vocational rehabilitation activity by staff in control clinics may have been associated with their involvement in a study comparing their performance to that of employment specialists. While the control staff's increased activity was sometimes a short-lived phenomenon, it may have reduced differences in outcome between clients in control clinics and clients in clinics with vocational specialists.

Outcome Analysis

The process analysis examined the level of activities undertaken by staff and clients in the clinics at different times without distinguishing between study and nonstudy clients. By contrast, the outcome analysis examined the impact of the activities on only a sample of clients, namely, the study clients. The figures below reveal that, as a result of this sampling design and the timing of the data collection, a large number of the clients served were not included in the outcome analysis.

Over the life of the study, the specialists served 1,798 clients (approximately 51 percent of all clients admitted to treatment during that period). Of those clients 1,529 were nonstudy clients. Thus, only 269 of those who received services were study clients, representing only 26 percent of the total study client sample of 1,049.

Table 8.—Percentage of clinic staff reporting provision of various types of vocational services to clients, by type of clinic

	Vocational planning					Skills training					Interviews and placement					Job maintenance counseling				
	Base-line	10 months		16 months		Base-line	10 months		16 months		Base-line	10 months		16 months		Base-line	10 months		16 months	
		Total staff	Non-ES staff	Total staff	Non-ES staff		Total staff	Non-ES staff	Total staff	Non-ES staff		Total staff	Non-ES staff	Total staff	Non-ES staff		Total staff	Non-ES staff	Total staff	Non-ES staff
Control clinics	71	--	64	--	51	5	--	4	--	2	27	--	38	--	20	72	--	74	--	70
Full-time employment specialist clinics	61	56	56	37	28	9	8	8	13	6	32	12	12	16		79	70	70	64	58
Consultant employment specialist clinics	67	60	60	48	48	10	8	8	3	2	44	33	33	19	19	74	59	59	57	57

Table 9.--Mean number of client job referrals, job applications, and job hires in a 4-week period, by type of clinic and months after study initiation

	Clients referred to employer for job application					Clients who applied for specific jobs					Clients who were hired				
	Base-line	10 months		16 months		Base-line	10 months		16 months		Base-line	10 months		16 months	
		Total staff	Non-ES staff	Total staff	Non-ES staff		Total staff	Non-ES staff	Total staff	Non-ES staff		Total staff	Non-ES staff	Total staff	Non-ES staff
Control clinics	2.3	--	3.0	--	1.6	3.6	--	3.4	--	3.3	2.0	--	2.1	--	2.5
Full-time employment specialist clinics	1.6	2.0	0.5	1.0	0.5	2.8	6.9	1.0	2.9	1.5	1.5	3.5	0.5	2.1	0.8
Consultant employment specialist clinics	1.4	1.2	1.2	1.5	1.5	3.3	3.6	3.6	2.9	2.9	1.9	1.8	1.9	1.2	1.2

Employment specialists, whether full-time or consultants, were expected to influence clinic functioning generally and thereby service delivery to all clients. Therefore, the researchers examined the functioning of a random sample of clients in each clinic type whether or not they had direct contact with an employment specialist. For this reason, the bulk of the data presentation is given in terms of the full random sample. Additional analysis will be presented later covering the impact of vocational counselor services on only those individuals who had contact with employment specialists.

The percentage of study clients served by the specialists at each site varied greatly. The Chicago specialists served twice the proportion of study clients (41 percent) as those in Detroit (20 percent) and New Jersey (18 percent).

The impact of the employment specialists on client functioning was examined for the following client outcomes: employment status, drug use, and criminal activity. Clients had to be retained at least 2 weeks to be included in this study. Adequate admission and discharge data were available on 930 clients (89 percent of the study sample): 254 from control clinics, 159 from full-time clinics, and 517 from consultant clinics. Comparisons with regard to employment, drug use, and crime were made between clients in control clinics and clients in clinics with full-time or consultant employment specialists. In addition, within the latter two experimental interventions, outcomes of clients who actually received services directly from the specialists were contrasted with clients who did not.

A comparison was also made of client retention by clinic type. All clients (1,152 individuals) admitted during the study period were included.

Employment.--Several different indicators of employment outcome were created. The simplest measure was a comparison of percentage employed at discharge to percentage employed at admission.

Overall, during the study the percentage of all clients employed at discharge (35 percent) increased only 4 percent from the total percentage employed at admission (31 percent). While this increase occurred in all types of clinics, the greatest increases were in full-time specialist clinics (22 percent to 30 percent) and control clinics (33 percent to 39 percent), and the least in consultant clinics (33 percent to 35 percent). The percentage increase was not statistically significant between clinic types (table 11).

More refined indicators of outcome were created:

Aggregate change.--One important indicator was the aggregate change in employment from admission to discharge. This aggregate change was then contrasted for the three interventions. The approach used here compared these aggregate change percentages for statistical significance. In order to control for initial high rates of employment in some programs and low rates in others, adjusted changes were computed by dividing the aggregate change in employment (number employed at discharge minus number employed at admission) by the number unemployed at admission, rather than the total number of clients. This was necessary

Table 10.--Mean number of client referrals to, and participation, in community organizations in a 4-week period, by type of clinic and months after study initiation

	Clients referred to community agency					Clients participating in community agency activities				
	Baseline	10 months		16 months		Baseline	10 months		16 months	
		Total staff	Non-ES staff	Total staff	Non-ES staff		Total staff	Non-ES staff	Total staff	Non-ES staff
Control clinics	3.3	--	1.8	--	2.1	4.2	--	3.4	--	3.3
Full-time employment specialist clinics	1.2	--	1.5	--	0.3	2.0	4.1	0.8	2.0	1.8
Consultant employment specialist clinics	1.5	1.4	1.4	1.2	1.2	2.3	2.7	2.7	2.4	2.4

since a clinic that begins with a high employment rate may have a relatively more difficult time in obtaining employment for an additional percentage of its unemployed than a clinic with a low employment rate. This is illustrated in the following example, which also demonstrates the computation of the adjusted aggregate change indicator:

- Clinic A: 70 of 100 clients employed at admission, 80 of 100 at discharge. Raw aggregate change = 70 percent to 80 percent, or 10 percent employed; adjusted aggregate change = 10/30 clients, or 33 percent (that is, an additional 10 out of 30 possible are employed).

- Clinic B: 30 of 100 clients employed at admission, 45 of 100 at discharge. Raw aggregate change = 30 percent to 45 percent, or 15 percent. Adjusted aggregate change is 15/70 clients, or 21 percent. Thus, Clinic B has a higher raw change, but a lower adjusted change. Clinic A was more successful in finding employment for its clients relative to the number of unemployed at admission.

New employment.--A second important indicator of program impact is the number of unemployed clients who get jobs. Contrasted to the first indicator, which is a measure of aggregate change, this indicator focuses on individual transitions, specifically individuals unemployed at admission but employed at discharge. This indicator is computed by determining the percentage of unemployed clients at admission who are employed at discharge. Thus, this indicator represents how successful a program has been in securing employment for its unemployed clients.

Retention of employment--A third indicator of program impact is the number of clients who are employed at admission and remain employed at discharge. This is computed by determining the percentage of employed clients at admission who are still employed at discharge. This indicator represents how successful a program has been in keeping clients employed.

Transition.--A fourth indicator of program impact is the number of clients who have made the transition from unemployed to employed in comparison to those making the transition from employed to

Table 11.--Percentage of clients employed at admission and discharge, by type of clinic

	Control clinics (N=254)	Clinics with full-time employment specialists (N=159)	Clinics with consultant employment specialists (N=517)
Percentage of all clients employed at admission	33	22	33
Percentage of all clients employed at discharge	39	30	35

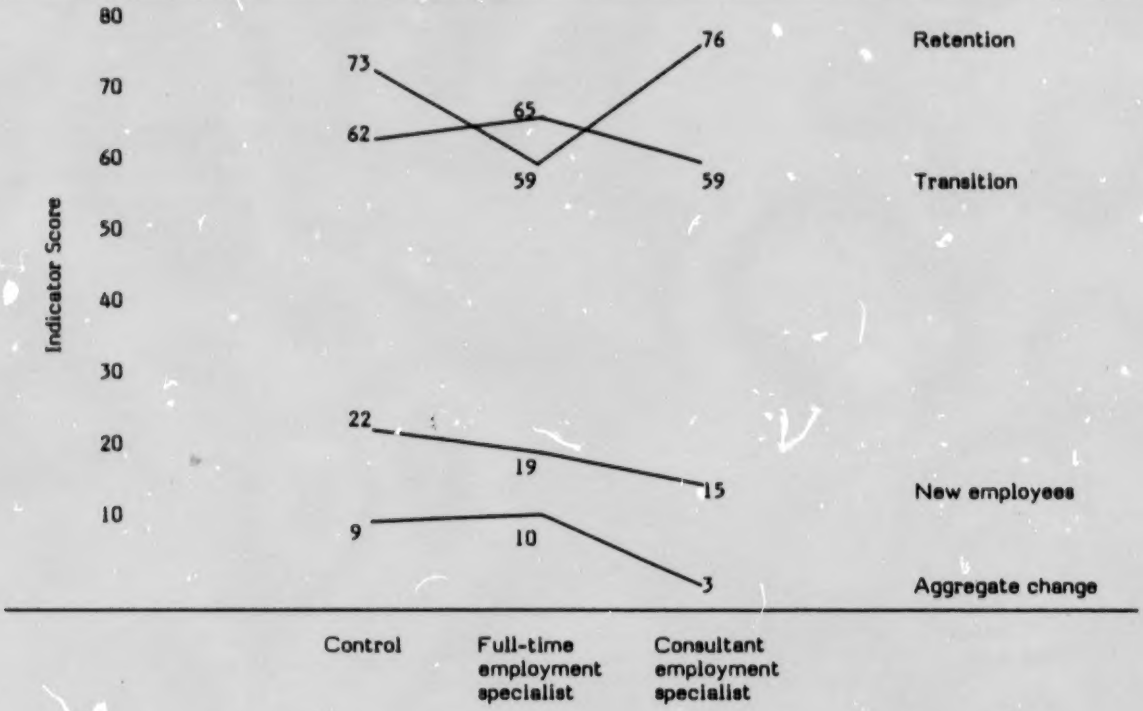

Figure 1.--Indicators of employment impact by type of employment specialist intervention

unemployed. This indicator is computed by determining the number of unemployed clients at admission who are employed at discharge (successes), and the number of employed clients at admission who are unemployed at discharge (losses). Then, the number of successes is divided by the number of successes plus losses and multiplied by 100. Values on this indicator above 50 occur when most (over half) of the program's transitions are successes; values below 50 occur when most transitions are losses. This indicator examines clients' successes relative to losses; it assumes that programs may have both beneficial and negative impacts, and that these should both be considered in evaluating total program impact.

The indicators of employment outcomes demonstrated different patterns of impact (figure 1). Increase in employment in full-time clinics was 10 percent, when adjusted. However, only 59 percent of those employed at admission in full-time clinics retained jobs. Clients in the full-time specialist clinics obtained the most positive results of all groups on measures of aggregate change and transition, and midlevel results on the new employment index.

The increase in employment of clients in clinics with consultant employment specialists was 3 percent, when adjusted as described above. Less than 15 percent of clients unemployed at admission were employed at discharge. However, 76 percent of those employed at admission remained employed at discharge. Thus, clients in clinics with consultant specialists were successful in retaining jobs but less successful in finding new jobs if unemployed at admission.

Clients in control clinics had an increase in employment of 9 percent, when adjusted. Twenty-two percent of clients unemployed at admission became employed by discharge; 73 percent employed at admission retained jobs. Thus, clients in control clinics were relatively successful in obtaining employment and in retaining employed status.

Since not all study clients in clinics with employment specialists received direct services from the specialists, employment outcomes were examined separately for those who saw or did not see the specialist (table 12). These comparisons were done only for those with an opportunity to see a specialist, i.e., those in consultant or full-time clinics.

The increase for clients who saw the specialist was 12 percent, when adjusted to take into account the different rates of employment between the clinics at the start of the study. For those who did not see the specialist, the increase was 3 percent, when

Figure 12.--Employment status of clients by interaction with employment specialists

	Clients who saw an employment specialist (N=269)	Clients who did not see an employment specialist (N=407)
Percentage of all clients employed at admission	23	32
Percentage of all clients employed at discharge	32	34
Aggregate change adjusted	12	3
Percentage of those unemployed at admission who became employed	23	13
Percentage of those employed at admission who remained employed	61	78
Transition	66	56

adjusted. For those who saw the specialist, 23 percent of those who were unemployed became employed, and 61 percent of those who were employed at admission remained employed. For those who did not see the specialist, 13 percent went from unemployed at admission to employed, and 78 percent remained employed. Thus, seeing the specialist was relatively beneficial in obtaining employment for the unemployed but did not seem to help in retaining employment. The numbers of clients, if any, who terminated employment in order to enter training or education programs or to seek other jobs is not known.

Drug Use.--The second principal indicator of changes in client functioning concerns drug use (table 13). For all the treatment interventions, the number of drugs used declined from admission to discharge (1.9 drugs mentioned as used at admission to 0.9 at discharge). Overall, 38 percent of study clients became drug free, and an additional 11 percent reported decreases in numbers of drugs used. Significantly more clients in full-time specialist clinics became drug free or decreased drug use than in other clinics.[1] Whereas 62 percent of clients in full-time specialist clinics either became drug free or decreased their drug use, 47 percent of control clients and 45 percent of clients in consultant clinics achieved similar status.

Retention in Treatment.--Retention in treatment is widely regarded as an important outcome indicator. Table 14 shows the percentage of clients remaining in treatment for less than 2 weeks and longer than 4 months. Particular focus was placed on these extremes in time since it appeared that little therapy could be accomplished in a 2-week period, and that at least 4 months have been seen as necessary to achieve some change in client functioning (Simpson 1981b). The control clinics were the most likely to have clients drop out within 2 weeks, while the full-time clinics were the most likely to retain clients in treatment for 4 months or longer. Differences between the three clinic types were found to be significant (x^2 = 29.42, $p < .01$). In addition, both consultant and full-time clinics were significantly more likely to retain clients 4 months or longer than were controls (x^2 = 12.47, $p < .01$; x^2 = 13.62, $p < .01$, respectively). Moreover, retention for 4 months or longer was greater in full-time specialist clinics than in consultant specialist clinics (x^2 = 18.44, $p < .01$). Thus, the presence of specialists was associated with client retention.

Crime.--Clients in the three types of clinics had comparable criminal histories at admissions overall, 50 percent had no prior arrests, and the average number of arrests per client was .91. Arrests at discharge were compared to see whether differences between clinics occurred during treatment. The clinics did not differ in percentage of clients with no arrests during treatment (range from 86 to 91 percent) or average number of arrests during treatment (.15 to .18).

[1] x^2 = 19.5, $p < .02$ for all three clinic types
x^2 = 16.6, $p < .01$ for full-time specialist clinics compared to other two types.

Table 13.--Client drug use at admission and discharge by type of clinic

	Control clinics (N=254)	Clinics with full-time specialists (N=159)	Consultant specialist clinics (N=517)	Total (N=930)
Percentage of all clients who became drug free	39	49	34	38
Percentage of all clients who decreased drug use	8	13	11	11

Table 14.--Duration of client treatment, by type of clinic

	Control clinics (N=336)	Clinics with full-time specialists (N=202)	Consultant specialist clinics (N=614)
Less than 2 weeks	24.4%	18.3%	15.1%
4 months or longer	42.8%	58.9%	47.1%

Discussion

The results of this investigation lend qualified support to the importance of incorporating full-time employment specialists into the service delivery system of drug abuse treatment programs. Specifically, clients from clinics to which full-time employment specialists were randomly assigned were significantly more likely to be retained for periods of 4 months or more and were significantly more likely to be drug free or to have diminished drug use at time of discharge. Nonetheless, increase in employment from time of admission to time of discharge was only slightly greater for clinics with full-time employment specialists (22-30 percent) than for clinics with no employment specialists (33-39 percent).

Those clinics having access to consultant employment specialists (i.e., employment specialists who divided their time among three clinics) were significantly more likely to retain clients 4 months or more than were control clinics but significantly less likely to retain clients 4 months or more than clinics with full-time employment specialists. No significant differences were found in either drug use or employment between clients in clinics with consultant specialists and clients in clinics with no employment specialists.

While the study gives some support to the importance of having employment specialists in the treatment program, some of the issues raised during the study must be taken into account. First, no assessment was made of the influence of client and/or program characteristics, other than the impact of employment specialists on client outcome. Although there were no differences in programs, and thereby clients, assigned to each of the employment specialist or control conditions in terms of the variables selected, it remains possible that other client or program variables may have contributed significantly to the differences obtained. Note also that differences in terms of retention rates, while found to be associated with the presence or absence of employment specialists, may influence the differences in rates of illicit drug use. Thus, those clients retained for longer periods in drug abuse treatment are also more likely to show diminution in rates of drug use (Simpson 1981b).

Other issues that emerged during this project may have biased the results against obtaining significant differences in a direction favoring the employment specialists. For example, clinics had to be sufficiently interested in vocational rehabilitation to be willing to be a part of this study. Many of the clinics that were ultimately designated as controls and denied the services of employment specialists made arrangements to secure vocational rehabilitation services from community resources; this is the kind of initiative one might expect from a clinic concerned with aiding its clients and lacking its own vocational rehabilitation personnel. Nonetheless, the often dramatically increased activity in the vocational area undertaken by control clinics during the first 10 months of the project suggests that involvement in this study may have acted as a goad to employment programing. The changed rate of vocational activity in control clinics may then have attenuated differences between experimental and control conditions.

In addition, there appears to have been confusion concerning the role of the employment specialists as consultants. In that capacity, the specialists were expected to provide support, assistance, and advice to clinic staff on vocational rehabilitation and employment issues and to have only a very small caseload of their own clients. The counseling staff was expected to retain responsibility for most vocational services, while the employment specialists improved the quality and efficiency of those services. Apparently, this did not occur. The counseling staff reduced their involvement in vocational activities and, as consultants to three clinics each, the specialists could not directly provide the full range of services. As a result of the confusion, clients in clinics with consultant specialists seemed to have received the least amount of vocational services.

One major change that occurred following the addition of the specialists was a shift in responsibility for vocational activities from the counseling staff to the specialists. In some instances, this resulted in an overall decrease in the volume of such activities. This was to be expected in clinics where specialists had been added as full- time staff. Nonetheless, while the volume of services provided and the number of clients counseled per week declined in the full-time clinics, it was hypothesized that the quality and efficiency of the vocational services and of counseling generally would improve and that the improvement would be evidenced in changed functioning by clients both with and without direct contact with employment specialists. The rates of retention and drug use over all clients admitted to full-time employment specialist clinics appear to reflect that improve-

ment. Focusing only on the 26 percent of clients who saw employment specialists--while clearly, specialists could cream appropriate clients--evidence of the impact of the employment specialist was more pronounced if less surprising.

Thus, on balance, the study suggests that the employment specialist can play a significant role in helping to effect client rehabilitation. If program administrators can augment their existing counseling staffs with the services of employment specialists culled from State vocational rehabilitation units or obtained through negotiation with other community agencies, it is likely that program effectiveness can be improved. Further study is needed to clarify how employment specialists might be used to work with existing counseling staffs to increase their treatment capacity without having to rely on the full-time services of employment specialists who are already in short supply. Because of the importance of employment to effective client rehabilitation and to the client's own expressed treatment interests, it is important to explore how these services can be more effectively provided within drug abuse treatment programs.

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